

t6_pralg_2 (TMLxAPExPP- tQdQaVGs1azu11wUJLYqE5rFH)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $l1_msualg_1 : \iota \Rightarrow o$ be given. Let $m1_pralg_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k10_funct_6 : \iota \Rightarrow \iota$ be given. Let $k11_pralg_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_funct_5 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_funct_5 : \iota \Rightarrow \iota$ be given. Let $k3_funct_5 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l5_struct_0 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funcop_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (k2_zfmisc_1 X0 X1 = k1_xboole_0) \Leftrightarrow ((X0 = k1_xboole_0) \vee (X1 = k1_xboole_0)) \quad (1)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \Rightarrow \\ & (\forall X2. (m1_pralg_2 X2 X0 X1) \Rightarrow (k9_xtuple_0 (k2_funct_5 (k11_pralg_2 \\ & X0 X1 X2)) = k2_zfmisc_1 X0 (u4_struct_0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_relat_1 X3) \wedge \\ & (v1_funct_1 X3)) \Rightarrow ((X3 \in k1_funct_2 (k2_zfmisc_1 X0 X1) X2) \Rightarrow ((k2_zfmisc_1 \\ & X0 X1 = k1_xboole_0) \vee ((k1_funct_5 X3 \in k1_funct_2 X0 (k1_funct_2 \\ & X1 X2)) \wedge (k3_funct_5 X3 \in k1_funct_2 X1 (k1_funct_2 X0 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski X0 X0 \quad (5)$$

Assume the following.

$$\exists X0.v1_xboole_0 X0 \quad (6)$$

Assume the following.

$$\forall X0.((\neg v11_struct_0 X0) \wedge (l5_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u4_struct_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l1_msualg_1 X0) \Rightarrow (l5_struct_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k2_funct_5 X0)) \wedge (v1_funct_1 (k2_funct_5 X0))) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X1) \wedge (l1_msualg_1 X1)) \wedge (m1_pralg_2 X2 X0 X1)) \Rightarrow ((v1_relat_1 (k11_pralg_2 X0 X1 X2)) \wedge \\ & ((v4_relat_1 (k11_pralg_2 X0 X1 X2) X0) \wedge ((v1_funct_1 (k11_pralg_2 X0 X1 X2)) \wedge (v1_partfun1 (k11_pralg_2 X0 X1 X2) X0) \wedge (v1_funcop_1 (k11_pralg_2 X0 X1 X2)))))) \end{aligned} \quad (10)$$

Assume the following.

$$k1_xboole_0 = the (\lambda X0 : \iota.v1_xboole_0 X0) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(X2 = k1_funct_2 X0 X1) \Leftrightarrow (\forall X3. \\ & (X3 \in X2) \Leftrightarrow (\exists X4.((v1_relat_1 X4) \wedge (v1_funct_1 X4)) \wedge ((X3 = X4) \wedge ((k9_xtuple_0 X4 = X0) \wedge (r1_tarski (k10_xtuple_0 X4) X1)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (k10_funct_6 X0 = k3_funct_5 (k2_funct_5 X0)) \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((\neg v11_struct_0 X1) \wedge (l1_msualg_1 X1))) \Rightarrow (\forall X2.(m1_pralg_2 X2 X0 X1) \Rightarrow (\forall X3.(m1_subset_1 X3 (u4_struct_0 X1)) \Rightarrow (k10_funct_6 (k11_pralg_2 X0 X1 X2) \in k1_funct_2 (u4_struct_0 X1) (k1_funct_2 X0 (k10_xtuple_0 (k2_funct_5 (k11_pralg_2 X0 X1 X2)))))))))) \end{aligned}$$